04645.0896

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Jennifer Nichols
Name

Signature

December 21, 2001
Date of Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application Of: Takeuchi et al.

For: Silver Vanadium Oxide Having A Low Internal Resistance And Method Of Manufacture

the specification of which is being transmitted herewith

Assistant Commissioner of Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT
Pursuant to 37 CFR 1.56

1. Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56.

The filing of this Information Disclosure Statement (IDS) shall not be construed as a representation that a search has been made (37 CFR 1.56(g)), an admission that the information cited is, or is considered to be material to patentability or that no other material information exists.

IDS For: Silver Vanadium Oxide Having Low Internal Resistance and Method of Manufacture
Inventor: Takeuchi et al.

The filing of this IDS shall not be construed as an admission against interest in any manner (Notice of Jan. 9, 1992, 1135 O.G. 13-25, at 25).

2. Attached is Form PTO-1449. Legible copies of all items listed accompany this IDS.

3. A concise explanation of the possible relevance of the listed information items is as follows:

Patents:

U.S. Patent 5,389,472 to Takeuchi et al. shows a method for producing a cathode containing SVO produced by combining elemental silver with at least one vanadium-containing compound to form an intimate combination of the starting materials comprising an anhydrous mixed metal oxide, thermally treating the anhydrous mixed metal oxide in an inert atmosphere to form an oxygen deficient SVO and forming a cathode from this product active material. Suitable atmospheres include argon, nitrogen and helium and the heating step may occur in a sealed tube. The resulting SVO has a formula of $Ag_2V_4O_{11}$.

A similar procedure is shown in U.S. Patent 4,965,151 to Takada et al. which discloses a solid state electrochemical cell including an electrode comprising a compound oxide composed of silver and a transition metal oxide. The method shown in Example 1 at column 8, lines 13 to 60 includes production of SVO by heating admixed silver and vanadium oxide in a sealed quartz tube. This compound oxide has the formula $Ag_xV_2O_{5-y}$ where x >

0.35 and $0 \leq y < 5$.

U.S. Patent 6,093,506 to Crespi et al. provides a method for manufacturing an SVO cathode material from AgO and a vanadium-containing mixture. Under this methodology, the heating step may occur under oxygen, nitrogen, argon, atmospheric air, and mixtures or combinations thereof.

U.S. Patent 5,545,497 to Takeuchi et al. teaches SVO materials produced from silver nitrate and vanadium oxide via a heating step under an oxidizing or a non-oxidizing atmosphere.

U.S. Patent 6,171,729 to Gan et al. relates to electrochemical cells incorporating mixed metal oxides such as CSVO. The CSVO material is produced from a mixture of vanadium oxide, silver oxide and copper(II) oxide reacted either under an oxidizing atmosphere such as air or oxygen, or an inert atmosphere such as argon, nitrogen and helium. Similarly, the CSVO materials suitable for use in U.S. Patent 6,180,283, also to Gan et al., may be prepared under oxygen or under an inert atmosphere.

U.S. Patent 6,130,005 to Crespi et al. teaches a heat-treated SVO material for use in batteries. The SVO may be synthesized from silver nitrate and vanadium oxide, have a formula of $Ag_2V_4O_{11}$ and be prepared under oxygen or an inert atmosphere.

4. The remaining patent on the attached Form 1449 was culled from the inventors' file.

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Inventor: Takeuchi et al.

5. The person making this statement is the agent who signs below, who makes this statement on information supplied by the inventors and on information in the agent's file.

Respectfully Submitted,

By: _____
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